NON-LINE-OF-SIGHT LAUNCH SYSTEM – A LETHAL COMBINATION

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1. INTRODUCTION

The Non-Line-of-Sight Launch System (NLOS-LS) will provide enabling lethality for the Army's Future Combat System (FCS). The NLOS-LS, one of 19 FCS Core Systems, will consist of a family of missiles and a highly deployable, platform-independent Container Launch Unit (C/LU) with self-contained tactical fire control electronics and software for remote and unmanned operations.

NLOS-LS will provide networked, extended-range targeting and precision attack of armored, lightly armored, and other stationary and moving targets during day, night, obscured and adverse weather conditions. NLOS-LS will be a self-contained system with multi-functional munitions capability as well as multi-modal transport. Because NLOS-LS will not be platform-specific, it may be fired from the ground and manned or unmanned tactical transport vehicles and will be capable of accepting in-flight updates (target type, location, velocity vector) from an observer or other sensors for attack of moving targets. NLOS-LS will consist of the launch unit with individual containerized munitions and an on-board command and control capability. The system will have an external mission planning software application that runs on the Objective Force battle command system for planning and execution of multiple and simultaneous missions including engagement with the different munitions.

2. NLOS-LS SYSTEM COMPONENTS

NLOS-LS will consist of two missiles, the precision attack missile (PAM) and the loitering attack missile (LAM), and a container/launch unit (CLU). NLOS-LS relies on advancements in state-of-the-art technologies; sensor/autonomous target recognition, controllable thrust propulsion, multipurpose/multimode warhead and lethality integration, and networked interface. The Precision Attack Missile (PAM) will have a 40 km range and a dual mode (imaging infrared/laser designation) seeker. The Loitering Attack Missile (LAM) will have a range of 70km with a 30 minute loiter and a LADAR seeker.

2.1 PAM

PAM will be a modular, multimission, guided missile with two trajectories- a direct-fire or fast-attack trajectory and a boost-glide trajectory. The missile will receive target information prior to launch and can receive and respond to target location updates during flight. The PAM will support laser-designated, laser-anointed and autonomous operation modes and will be capable of transmitting near-real-time information in the form of target imagery prior to impact. PAM is being designed to defeat heavy armored targets.
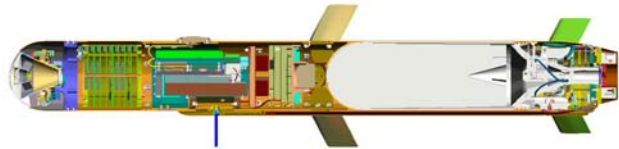

Fig. 2.1, PAM representation

2.2 LAM

LAM will provide imagery for area search, surveillance, targeting and BDA and could serve as an airborne radio transmission platform for other system missiles, as well as identifying high-payoff targets for missile attack. LAM will be capable of flying extended ranges with significant loiter time at its maximum range. Mission data can be preprogrammed or changed in flight and imagery information can be provided to multiple common ground systems. Current target requirements for LAM are for high-fleeting, high-value targets.
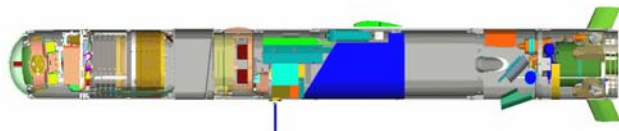

Fig. 2.2, LAM representation

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2.3 C/LU

The C/LU will serve as the basic missile shipping container and vertical launcher. It will contain the PAM and LAM as well as the computer and communications system. It will accept remote commands to launch, test for availability and conduct firing operations without the use of an attendant crew. NLOS-LS will be a platform-independent transported system.
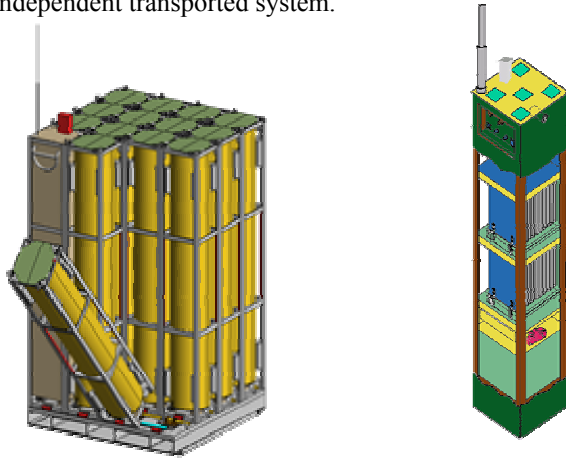

Fig. 2.3, C/LU representation

2.4 ACCOMPANYING COMPONENTS

Aside from the missiles and C/LU, other products of the NLOS-LS program will be missile-compatible network radio (Joint Tactical Radio System (JTRS) SCA-compliant), network protocols for missiles, interfaces between missile and ground elements, a mission manager application, missile imagery display, a distributed NLOS–LS C^2 capability, and an interface to the FCS Unit of Action.

Fig. 2.4, Network development

3. CONCLUSION

This weapon system will provide the war fighter the ability to attack a variety of targets, call for fire with precision strike, semi-autonomous engagement, and reduced logistics with more killing power per pound.